

Department of Planning and Zoning

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TO: Development Review Board
FROM: Scott Gustin *SG*
DATE: September 6, 2011
RE: 12-0179CA/CU; 28 Starr Farm Beach Road

Note: These are staff comments only; decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. **THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.**

Zone: WRL Ward: 4

Owner/Applicant: Kelley & Steve Gardner / Eric Goddard, Knight Consulting Engineering

Request: Install sea wall constructed of quarry stone.

Applicable Regulations:

Article 4 (Maps & Districts), Article 5 (Citywide General Regulations), Article 6 (Development Criteria & Guidelines)

Background Information:

The applicants are seeking approval to construct a seawall to repair shoreline damage associated with flooding this past spring and to prevent future damage. Associated fill and grading work is also proposed. As the seawall and boathouse are located partially below the 102' elevation, they are subject to review under the flood hazard area regulations in addition to dimensional and design review standards. As required, the project is subject to review and approval by the State National Floodplain Insurance Program Coordinator at VT DEC. A copy of the application was provided to the Coordinator on August 12, but no response has yet been received. The Coordinator has 30 days to respond. Any comments received within the 30 day period will be incorporated into this approval.

Recommendation: Consent approval as per, and subject to, the following findings and conditions:

I. Findings

Article 4: Maps & Districts

Sec. 4.4.5, Residential Districts:

(a) Purpose

(2) Waterfront Residential Low Density (WRL)

The subject property is located in the WRL zone. This zone is intended primarily for low density residential development in the form of single detached dwellings and duplexes with consideration given to design review. The single family home use will remain unchanged. **(Affirmative finding)**

(b) Dimensional Standards & Density

As the proposed seawall is more than 18" wide, it increases lot coverage. No lot coverage figure has been provided and one is needed; however, the parcel clearly remains below the 35% coverage maximum. The seawall is located within the 75' lakeshore setback; however, its degree of encroachment will not exceed that of nearby seawalls. Furthermore, walls (i.e. retaining walls and seawalls) are specifically allowed to encroach into setbacks per Sec. 5.2.5, *Setbacks*, (b)

Exceptions to Yard Setback Requirements. The seawall is well under the maximum allowable height of 35'. **(Affirmative finding)**

(c) Permitted & Conditional Uses

The seawall is accessory to the permitted single family home. **(Affirmative finding)**

(d) District Specific Regulations

1. Setbacks

See Sec. 4.4.5 (b) above for setback encroachment.

2. Height

Not applicable.

3. Lot Coverage

Not applicable.

4. Accessory Residential Structures and Uses

Not applicable.

5. Residential Density

Not applicable.

6. Uses

Not applicable.

7. Residential Development Bonuses

Not applicable.

Sec. 4.5.4, Natural Resource Protection Overlay District:

(a) District Specific Regulations: Special Flood Hazard Area

(7) Special Review Criteria

A. The danger to life and property...

The seawall will be placed within the lakeshore flood hazard area. Lakeshore flood dynamics are unlike those of river flood dynamics. The water does not flow at perceptible speeds and is not subject to constriction. Placement of the seawall within the lakeshore flood zone will have no impact on flood heights or velocities. **(Affirmative finding)**

B. The danger that material may be swept onto other lands...

The new seawall is to be constructed of quarried stone blocks of 1.5 – 4 tons each and will be anchored into the ground along its base. There is little danger that the structure will be swept away by flood waters. **(Affirmative finding)**

C. The proposed water supply and sanitation systems...

Not applicable.

D. The susceptibility of the proposed facility and its contents to flood damage...

The seawall is a protective measure against flood damage to the property. The potential for flooding damage to the seawall itself is minimal. **(Affirmative finding)**

E. The importance of the services provided...

The seawall is of little importance to the Burlington community; however, it will provide substantial protection to the private property that it will be located on. **(Affirmative finding)**

F. The availability of alternative locations...

The point of the seawall is to protect the property from flood damage. Its placement within the flood zone is key to this function. Its location within the floodplain is acceptable. **(Affirmative finding)**

G. The compatibility of the proposed use with existing development...

Seawalls are commonplace along Burlington's lakeshore. **(Affirmative finding)**

H. The relationship of the proposed use to the Municipal Development Plan...

The Municipal Development Plan does not address seawalls. It does speak to the development pattern of single family homes and duplexes in the RL and WRL zones. The subject property contains a single family home. Insofar as homes along the lakeshore commonly have seawalls, the proposal can be found in compliance with the MDP. **(Affirmative finding)**

I. The safety of access to the property...

The new seawall will have no effect on the safety of access to the property during times of flood. **(Affirmative finding)**

J. The expected heights, velocity, duration, rate of rise...

The maximum regulatory flood elevation along the lakeshore is 102' above sea level. The seawall will have no impact on flood heights, velocity, duration, rate of rise, or sediment transport. **(Affirmative finding)**

K. Conformance with all other applicable requirements...

See Articles 4, 5, and 6 of these findings.

Article 5: Citywide General Regulations

Sec. 5.2.3, Lot Coverage Requirements

See Sec. 4.4.5 (b) above.

Sec. 5.2.4, Buildable Area Calculation

Not applicable.

Sec. 5.2.5, Setbacks

See Sec. 4.4.5 (b) above.

Sec. 5.2.6, Building Height Limits

See Sec. 4.4.5 (b) above.

Sec. 5.2.7, Density and Intensity of Development Calculations

See Sec. 4.4.5 (b) above.

Sec. 5.5.1, Nuisance Regulations

Nothing in the proposal appears to result in creating a nuisance under this criterion. **(Affirmative finding)**

Sec. 5.5.3, Stormwater and Erosion Control

As more than 400 sf of earth disturbance is proposed, a “small project erosion control” plan is required. Such a plan has been reviewed and approved by the Stormwater Administrator. The approved plan and associated conditions will be incorporated into this permit approval.

(Affirmative finding as conditioned)

Article 6: Development Review Standards

Part 1, Land Division Design Standards

Not applicable.

Part 2, Site Plan Design Standards

Sec. 6.2.2, Review Standards

(a) Protection of important natural features

The subject property is located along the Lake Champlain shoreline. The shoreline is an identified significant natural area. Much of the property is affected by the Natural Resource Protection Overlay District, specifically the riparian and littoral conservation zone, which stretches inland 250’ from the 100’ lakeshore elevation. As required, an erosion control plan has been reviewed and approved for this project by the Stormwater Administrator. Tree cutting is limited to the removal of five trees that have been identified as being in poor health. **(Affirmative finding)**

(b) Topographical alterations

The property slopes towards the lake and will continue to do so. Some grading is proposed and will smooth out the backyard slope towards the top of the proposed seawall. Backfill will be placed behind the replacement seawall. The proposed grading changes are moderate and acceptable. **(Affirmative finding)**

(c) Protection of important public views

Not applicable.

(d) Protection of important cultural resources

Not applicable.

(e) Supporting the use of alternative energy

Not applicable.

(f) Brownfield sites

Not applicable.

(g) Provide for nature’s events

See Sec. 5.5.3.

(h) Building location and orientation

Not applicable.

(i) Vehicular access

Not applicable.

(j) Pedestrian access

Not applicable.

(k) Accessibility for the handicapped

Not applicable.

(l) Parking and circulation

Not applicable.

(m) Landscaping and fences

All but five of the existing trees will be retained. No new landscaping is proposed. Vegetative screening of concrete seawalls has been required in the past. As this seawall will be constructed of quarried stone blocks similar in appearance to the naturally occurring ledge along parts of the Burlington shoreline, no screening is required. A cedar railing fence will be installed along the top of the seawall. As the seawall is greater than 3 feet tall, review and approval by the City Engineer is required. This review will take place via the associated building permit application.

(Affirmative finding as conditioned)

(n) Public plazas and open space

Not applicable.

(o) Outdoor lighting

Not applicable.

(p) Integrate infrastructure into the design

Not applicable.

Part 3, Architectural Design Standards

Sec. 6.3.2, Review Standards

Not applicable.

II. Conditions of Approval

1. **Prior to release of the zoning permit**, revised plans depicting proposed lot coverage shall be submitted, subject to staff review and approval.
2. This approval incorporates the erosion prevention and sediment control plan approved by the Stormwater Administrator 8/30/11.
3. This approval incorporates timely comments and stipulations issued by the State National Floodplain Insurance Program Coordinator at VT DEC as related to this project.

4. The Applicant/Property Owner is responsible for obtaining all necessary Zoning Permits and Building Permits through the Department of Public Works as well as other permit(s) as may be required, and shall meet all energy efficiency codes as required.
5. Standard permit conditions 1-18.



28 STARR FARM BEACH

TECHNICAL SPECIFICATIONS

- 1A. SPECIAL CONDITIONS
- A. GENERAL:
- 1) THE CONTRACTOR SHALL FIELD VERIFY ALL CRITICAL DIMENSIONS AND ELEVATIONS.
 - 2) BARRICADES SHALL BE PLACED AROUND ALL OPEN EXCAVATIONS TO PROTECT PEDESTRIANS OR VEHICULAR TRAFFIC ADJACENT TO THE WORK AREA.
 - 3) ALL TECHNICAL QUESTIONS SHALL BE DIRECTED TO ERIC GODDARD AT KNIGHT CONSULTING ENGINEERS, 879-6343.

- B. SCOPE OF WORK: THE WORK OF THIS CONTRACT INCLUDES PROVIDING AND INSTALLING THE FOLLOWING, BUT MAY NOT BE LIMITED TO:
- 1) TEMPORARY & PERMANENT EROSION CONTROL.
 - 2) STRIPPING OF TOPSOIL.
 - 3) EXCAVATION & BACKFILL.
 - 4) SHORING / BRACING AS REQUIRED.
 - 5) SITEWORK.
 - 6) FINAL GRADING, SEEDING & CLEAN-UP.

2A. EARTHWORK/RELATED ITEMS:

A. MATERIALS:

1) GRANULAR FILL:

- a) MATERIALS FOR GRANULAR FILL SHALL BE A PERMEABLE, COMPACTIBLE SAND OR GRAVEL, FREE OF ORGANIC MATERIALS, DEBRIS, SNOW, ICE, FROZEN SOIL OR OTHER OBJECTIONABLE MATERIAL, CONFORMING TO THE FOLLOWING GRADATION:

U.S. SIEVE NO.	% PASSING
2	100
10	90-100
20	70-100
40	60-100
60	0-20
100	0-6

2) DENSE-GRADED CRUSHED STONE:

- a) SHALL BE A WELL-GRADED CRUSHED STONE, FREE OF ORGANIC MATERIALS, DEBRIS, SNOW, ICE, FROZEN SOIL OR OTHER OBJECTIONABLE MATERIAL, CONFORMING TO THE FOLLOWING GRADATION:

U.S. SIEVE NO.	% PASSING
3/4"	100
2"	90-100
4"	75-100
10"	50-80
20"	30-60
40"	15-40
100"	0-6

- b) DENSE-GRADED CRUSHED STONE SHALL CONFORM TO VDOT ITEM 704.06A.

3) STONE FILL:

- a) TO BE VDOT 706.04 TYPE I STONE FILL AS SHOWN ON DRAWINGS. SHOWN ON DETAILS.

4) SEAWALL BLOCKS:

- a) TO BE A DURABLE QUARRIED ROCK IN RECTANGULAR SHAPES SIMILAR TO THOSE FOUND IN WHITCOMB'S QUARRY.

5) SILT FENCE:

- a) FENCE INSTALLED FOR SILT CONTROL SHALL BE A PREASSEMBLED WOOD POST AND FILTER FABRIC SYSTEM. FENCE SHALL BE ENHANCED AS MANUFACTURED BY MIRAFI, INC. OR EQUAL. APPROVED IN WRITING BY THE OWNER'S REPRESENTATIVE.
- b) WIDTH OF FABRIC SHALL BE 3" MINIMUM. POSTS ARE TO BE HARDWOOD OR METAL, 4.5" LONG AND SPACED 8' TO 8' ON CENTER.

6) FILTER FABRIC:

- a) SHALL BE MIRAFI 600X OR APPROVED EQUAL.
- b) ALL FABRIC JOINTS SHALL BE LAPPED A MINIMUM OF 18". IT SHALL BE LAPPED IN SUCH A WAY AS TO NOT CREATE CHANNELS BETWEEN THE LAYERS. THE OVERLAPPING PIECES SHALL BE IN FULL CONTINUOUS CONTACT WITH EACH OTHER.

D. TOPSOIL AND SEEDING:

- 1) RESTORE LAWN AREAS. PLACE TOPSOIL, SEED, MULCH & JUTE MATING ON ALL NON-STONE FILL SLOPES.



RECEIVED
AUG 10 2011

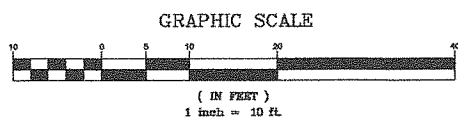
DEPARTMENT OF
PLANNING & ZONING

Survey performed by Summit Engineering, Inc.

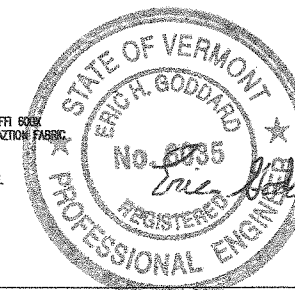
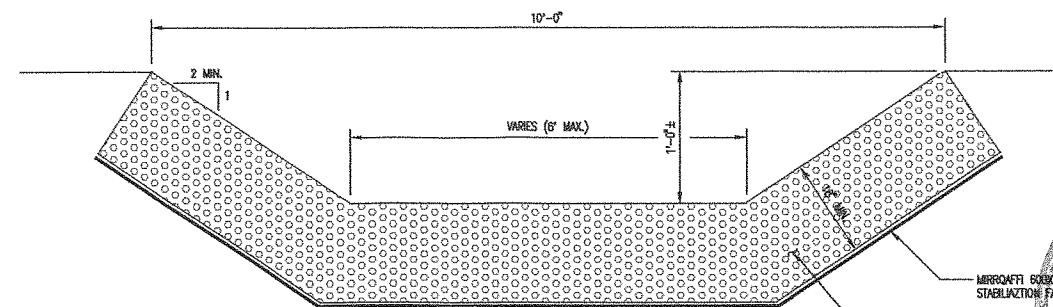
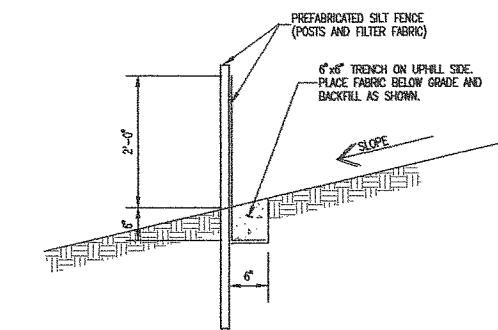
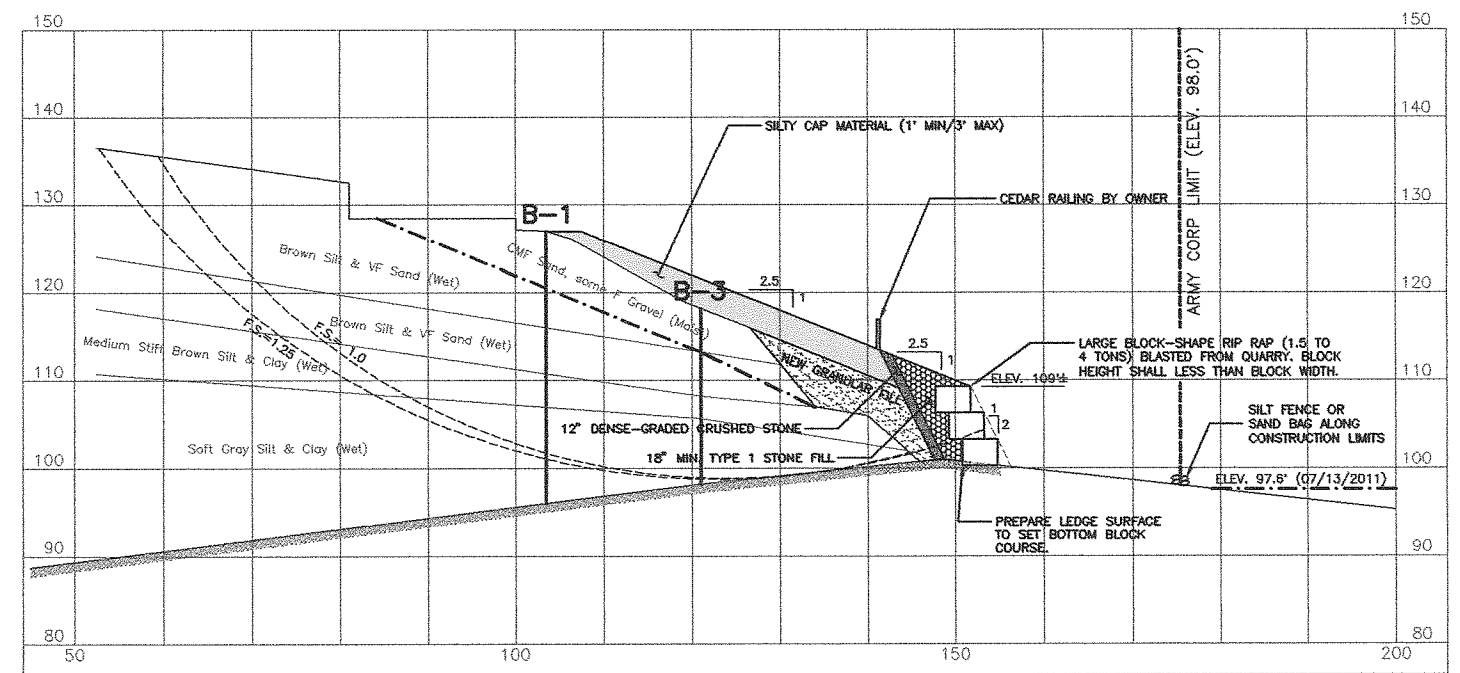
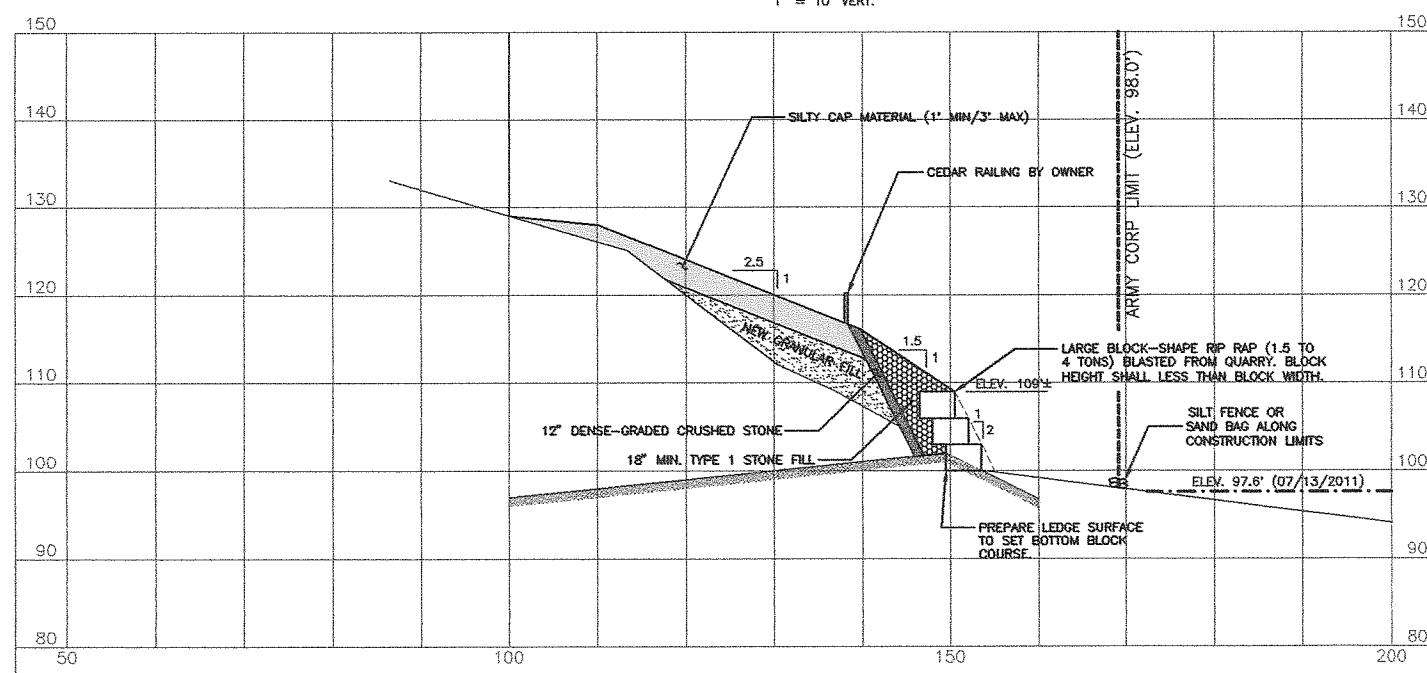
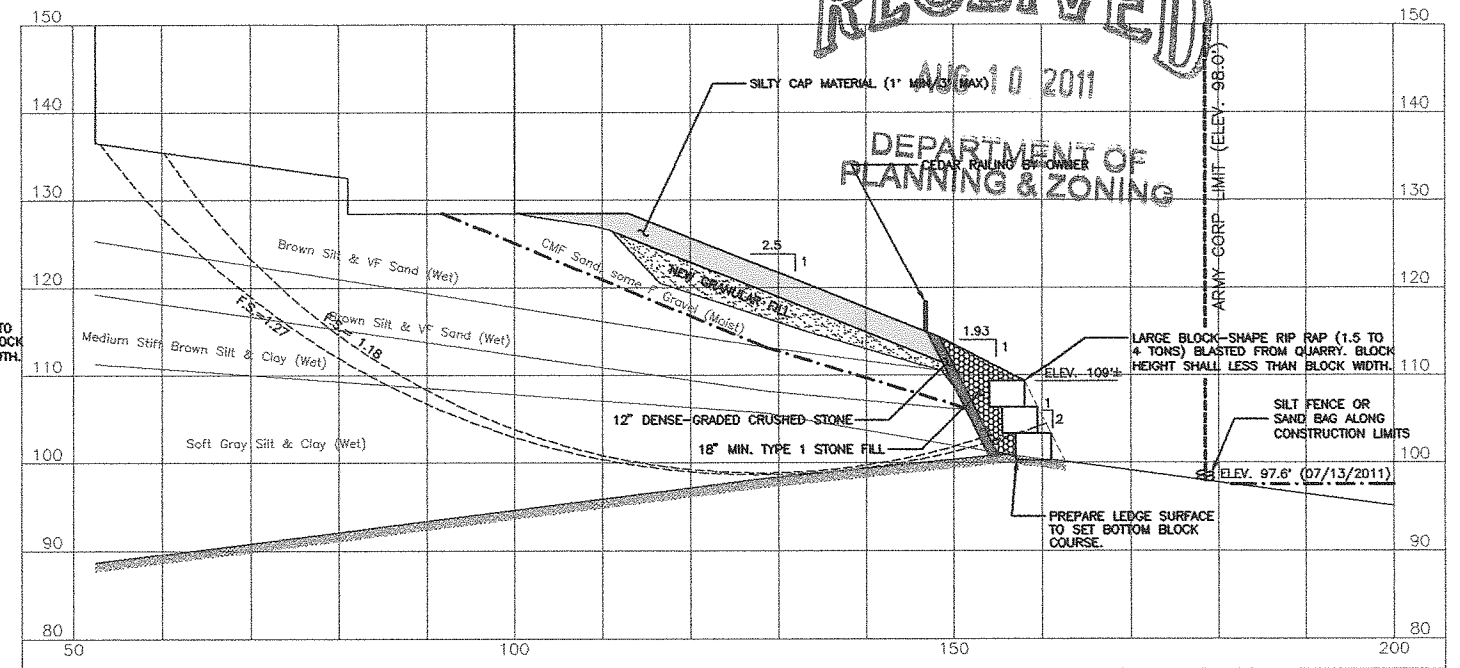
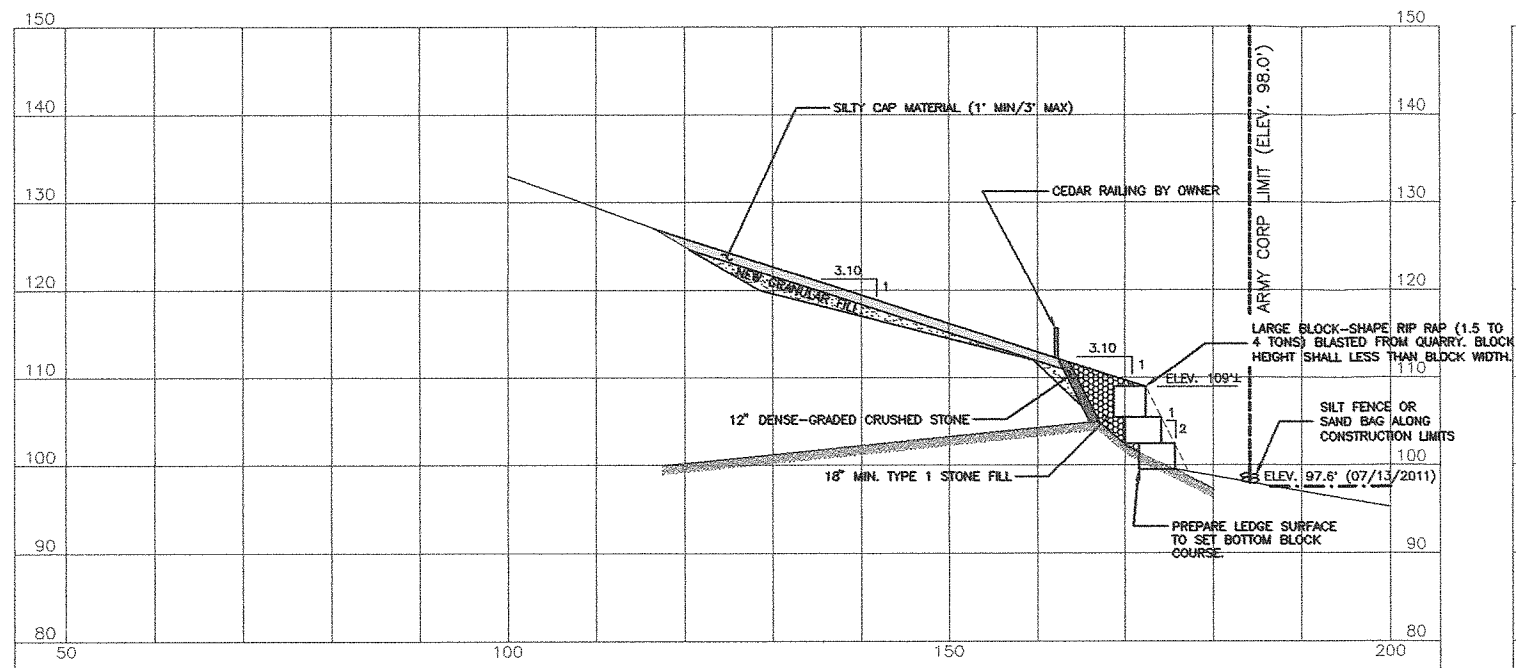
The purpose of this plan is to show the slide area at this site.


This plan is based upon a field survey performed on 07/13/11. Elevations are based upon the lake elevation at the King Street Dock which reported an elevation of 97.6' NGVD23.

NAVD 88 Datum is approximately 0.5' lower or 97.1'.



NO.	DATE	REVISION
SITE PLAN		
PROPOSED SEAWALL SLOPE STABILIZATION 28 STARR FARM BEACH BURLINGTON, VT		
11279	08/10/11	1"
KCE KNIGHT CONSULTING ENGINEERS, INC. P.O. BOX 29, WILLISTON, VT., 05495 - TEL. 879-6343		



NO.	DATE	REVISION
SLOPE SECTIONS		
PROPOSED SEAWALL SLOPE STABILIZATION 28 STARR FARM BEACH BURLINGTON, VT		
 KNIGHT CONSULTING ENGINEERS, INC. P.O. BOX 29, WILMINGTON, VT., 05490 - TEL. 878-6343		
Dwg. No. C2		
Proj. No. 11279		
Date 08/10/11 Scale: 1" = 10'		